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EXAMINER

SHELEHEDA, JAMES R

ART UNIT PAPER NUMBER

2614

DATE MAILED: 10/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,623

Applicant(s)

CROCITTI ET AL.

Examiner

James Sheleheda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities:

In claim 1, line 3, "the tuner" should be changed to "a tuner".

In claim 1, line 6, "the information table" should be changed to --an information table--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda (6,660,925) (of record) in view of Deniau et al. (Deniau) (EP823798A1) (of record).

As to claim 7, Yoneda discloses a receiver of digital television transmissions (Fig.

- 1) comprising:

a memory (identification information storage unit, 5),

means for scanning and extracting (by extracting particular PIDs of the received transport stream using separating unit 2; column 5, lines 48-56) by a tuner (Fig. 1,

receiving unit 1 tuning and receiving; column 5, lines 44-47) on a whole of a frequency span (wherein the frequency of a transport stream is inherently some frequency span; Fig. 57(b); column 2, lines 3-14) of data representing the network information table (column 61, lines 63-65) and service information table (column 62, lines 4-5).

While Yoneda discloses wherein the network information table contains the trio of the information table (NIT table; Fig. 56; column 61, lines 63-65),

the carrier frequency corresponding to the network whose information table is extracted (transport stream ID, Fig. 56) and

an identifier of the table (table ID; Fig. 56), and

a second trio of information items constituted by the extracted service information table (SDT table; Fig. 56; column 61, lines 63-65),

the frequency of the carrier (transport stream ID, Fig. 56) and

the identification of the SDT service table (table ID; Fig. 56), he fails to specifically disclose wherein the extracted data is stored in a database in memory, means for updating of the database, means for injecting the tables into the interface of the application program of the demultiplexer so as to select the filter appropriate to the desired channel or means for copying into the MPEG stack of the operating system the database data provided for a given carrier frequency.

In an analogous art, Deniau discloses a digital cable receiver (Fig. 1, page 3, line 19) utilizing received service data (page 2, lines 3-5, page 3, lines 7 and Fig. 5)

wherein extracted service data is stored in a database (page 2, line 22) which has the means to be updated (page 4, lines 50-53 and lines 15-18);

means for injecting (a program running on microprocessor 23) the sections (or tables) into the interface of the application program of the demultiplexor (or program controlling the demultiplexor; wherein the management module access lists in memory containing the service data to find the correct information; page 8, lines 39-52) so as to select the filter appropriate to the desired channel (page 8, line 52);

and means for copying into the MPEG stack of the operating system (or MPEG buffer) the database data provided for a given carrier frequency (page 4, lines 13-18 and page 3, lines 49-51) for the typical advantages of allowing easy access to the most current data tables at a later time; enabling the demultiplexor to correctly filter the correct information from the data channel; and providing the stored data in a buffer for use by applications.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda's system to include wherein the extracted data is stored in a database in memory, means for updating the data of the database, means for injecting the tables into the interface of the application program of the demultiplexor so as to select the filter appropriate to the desired channel or means for copying into the MPEG stack of the operating system the database data provided for a given carrier frequency, as taught by Deniau, for the typical advantages of allowing easy access to the most current data tables at a later time; enabling the demultiplexor to correctly filter the correct information from the data channel; and providing the stored data in a buffer for use by applications.

As to claim 8, Yoneda and Deniau disclose wherein the selected table segment is injected by injection means into the buffer of the channel of the decoder constituting an MPEG stack (see Deniau at page 4, lines 13-18 and page 3, lines 49-51).

4. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda in view of Deniau and Suzuki et al. (Suzuki) (5,864,358) (of record).

As to claim 1, Yoneda discloses a process for constructing databases for digital television services (column 1, lines 9-19), wherein it comprises:

- a) tuning by a tuner (Fig. 1, receiving unit 1; column 5, lines 44-47) to a carrier frequency (Fig. 57(b); a transport stream containing a plurality of channels; column 2, lines 3-14);
- b) filtering by a demultiplexer (separating unit, 2) the signal received by the tuner tuned to a given carrier frequency (by extracting particular PIDs of the received transport stream; column 5, lines 48-56);
- c) extracting the data representing the information table (NIT table) of the current network from the received signal (column 61, lines 63-65); and
- d) extracting the data representing the service table (column 62, lines 4-5);

While Yoneda discloses the processing of NIT (column 61, lines 66-67 and column 62, lines 1-3) and SDT (column 62, lines 2-10) tables which each contain the trio of the table, the carrier frequency (transport stream ID, Fig. 56) and a table identifier (table ID; Fig. 56), he fails to specifically disclose the **storing** of the extracted data,

searching by the tuner for the next carrier frequency and repeating steps b) to f) until the whole frequency span has been swept.

In an analogous art, Deniau discloses a digital cable receiver (Fig. 1, page 3, line 19) utilizing received service data (page 2, lines 3-5, page 3, lines 7 and Fig. 5) wherein the service data is filtered from a received stream (page 2, line 21) and stored in a database (page 2, line 22) for later transfer to client applications (page 4, lines 6-9) for the typical advantage of allowing easy access to these data tables at a later time.

Additionally, in an analogous art, Suzuki discloses a digital broadcasting system (Fig. 1) utilizing program tables (column 8, lines 44-46) wherein, at power up, program tables for a physical channel are extracted and stored (column 17, lines 1-13) and a demodulation section will sequentially cycle through every tunable physical channel (or carrier frequency) and repeat the extraction and storing for each physical channel (column 17, lines 1-13) for the typical benefit of creating an initial database of received program tables for every channel for later use by the receiver (column 17, lines 14-28).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda's system to include the storing of the extracted data, as taught by Deniau, for the typical advantage of allowing easy access to these data tables at a later time.

Additionally, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda and Deniau's system to include the repetition of the steps for the whole frequency span, as taught by Suzuki, for the typical

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benefit of creating an initial database of received program tables for every channel for later use by the receiver.

As to claim 4, Yoneda, Deniau and Suzuki disclose the process further including the step of interrogating, for a given carrier frequency (cf) the content of a database (see Deniau at page 4, lines 13-15) so as to extract therefrom the service information table (see Deniau at page 4, lines 13-15);

5. Claims 2, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda, Deniau and Suzuki as applied to claim 1 above, and further in view of Sinclair (US2001/0011334A1) (of record).

As to claim 2, while Yoneda, Deniau and Suzuki disclose storing obtained data in a database in memory, they fail to specifically disclose wherein the stored data is compressed.

In an analogous art, Sinclair discloses a memory device for storing data (paragraph 1) wherein data is stored in compressed form (paragraph 2) for the typical advantage of increasing the amount of data which can be stored in a storage device (paragraph 2, lines 3-9).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda, Deniau and Suzuki's system to include wherein the stored data is compressed, as taught by Sinclair, for the typical advantage of increasing the overall amount of data which can be stored in a storage device.

As to claim 5, Yoneda, Deniau, Suzuki and Sinclair disclose the use of the process in a services installation procedure (a procedure to provide service data to various applications, see Deniau at page 3, lines 45-51), further including the steps of:

interrogating for a given carrier frequency the content of a database (see Deniau at page 4, lines 13-15) so as to extract therefrom the service information table (see Deniau at page 4, lines 13-15);

decompressing the network information table and the SDT service table (wherein the stored data is inherently decompressed to provide access; paragraph 2); and

dispatching the network information table and the SDT service table to buffers for use by the decoder (See Deniau at page 4, lines 13-18).

As to claim 6, while the current combination of Yoneda, Deniau and Suzuki disclose storing the trio of information, they fail to specifically disclose the use of the process in a procedure for maintaining the database section, wherein it consists of running a database construction procedure for a given carrier frequency and in verifying that the version of the network information tables obtained by the procedure is higher than the version recorded in the database and the storing of the new trio of information in compressed form.

In an analogous art, Deniau further discloses a digital cable receiver (Fig. 1, page 3, line 19) wherein an application requests the most recent version of service data (page 4, lines 21-24 and lines 36-39) and the version number of incoming service data

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is compared to the versions contained in a database (page 4, lines 48-55), so when the received version is higher then the current version the higher version will be stored (page 4, lines 50-53 and lines 15-18), for the typical advantage of ensuring that the most current data is stored.

Additionally, in an analogous art, Sinclair discloses a memory device for storing data (paragraph 1) wherein data is stored in compressed form (paragraph 2) for the typical advantage of increasing the amount of data which can be stored in a storage device (paragraph 2, lines 3-9).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to further modify Yoneda, Deniau and Suzuki's system to include the use of the process in a procedure for maintaining the database section, wherein it consists of running a database construction procedure for a given carrier frequency and in verifying that the version of the network information tables obtained by the procedure is higher than the version recorded in the database and the storing of the new trio of information, as further taught by Deniau, for the typical advantage of ensuring that the most current data is stored.

Additionally, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to further modify Yoneda and Deniau's system to include wherein the stored data is compressed, as taught by Sinclair, for the typical advantage of increasing the amount of data which can be stored in a storage device.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda and Deniau as applied to claim 7 above, and further in view of Sinclair.

As to claim 9, while Yoneda and Deniau disclose wherein the database comprises the data of the network information table (NIT table; See Yoneda at Fig. 56; column 61, lines 63-65) and the data of the SDT services table (SDT table; see Yoneda at Fig. 56; column 62, lines 4-5), they fail to specifically disclose wherein the data is compressed.

In an analogous art, Sinclair discloses a memory device for storing data (paragraph 1) wherein data is stored in compressed form (paragraph 2) for the typical advantage of increasing the amount of data which can be stored in a storage device (paragraph 2, lines 3-9).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda and Deniau's system to include wherein the stored data is compressed, as taught by Sinclair, for the typical advantage of increasing the amount of data which can be stored in a storage device.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda, Deniau, Suzuki and Sinclair as applied to claim 2 above, and further in view of Burrows et al. (Burrows) (5,745,894) (of record).

As to claim 3, while Yoneda, Deniau and Sinclair disclose a compression step storing the information in a database, they fail to specifically disclose the storing of a key derived from the carrier frequency.

In an analogous art, Burrows discloses a method of indexing a database (column 1, lines 7-9) wherein an index (or key), stored in memory (column 1, lines 64-65), is created identifying information contained in the database (column 1, lines 65-67) and the location of that information (column 1, lines 65-67 and column 2, lines 1-3) for the typical advantage of providing a way to easily search entries in a database.

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to modify Yoneda, Deniau and Sinclair's system to include the storing of a key derived from the carrier frequency, as taught by Burrows, for the typical advantage of providing a way to easily search entries in a database.

Response to Arguments

8. Applicant's arguments filed 06/17/04 have been fully considered but they are not persuasive.

a. On page 8, lines 12-14 (of applicant's response), applicant argues that "Deniau does not need to scan the frequency span for retrieving the service information. Deniau is concerned with a vertical market not a horizontal market...".

In response, applicant is directed to the fact that it is the Yoneda reference which has been relied upon for all of the details of the extracted network information as per the previous rejections, Deniau simply discloses storing the data into a database.

Furthermore, the Yoneda reference, which is specifically directed to the extracted information tables, in fact does disclose a horizontal market of plural different networks transmitting to a household (see, for example, Fig. 13(c)). To acquire the service tables for each network and channel would then require some form of "frequency scanning".

b. As to applicant's arguments on page 9, lines 5-11 (of applicant's response),

The Suzuki reference does in fact further disclose storing tables associated with each scanned channel as all of the channels are swept, not just assembling an NIT table. (see Suzuki at column 17, lines 6-10).

c. As to applicant's arguments on page 9, lines 11-15 (of applicant's response), wherein applicant asserts that the database created by Suzuki by sweeping the frequency span, does not disclose or suggest the trio of data as per applicant's invention.

In response, applicant is once again directed to the fact that the Yoneda reference which is directed to storing the trio of information representing the tables, the carrier frequency and identifiers, as per the previous rejection. Suzuki simply demonstrates the ability and reasoning to repeat the extraction process for each frequency to assemble an initial database which would then contain all of needed information.

d. As to applicant's arguments on page 9, lines 16-21 (of applicant's response), wherein applicant asserts that Suzuki's system would not solve the listed problems associated with a horizontal market.

In response, the applicant is reminded that the relied upon Yoneda reference does in fact discuss the use of a horizontal market involving plural transmission networks providing services. The creation of a database of all the current services across the networks would indeed solve the problem applicant has identified.

e. In response to applicant's argument On page 9, lines 27-29 and page 10, lines 1-4 (of applicant's response) wherein applicant asserts that the combination of Suzuki with Yoneda and Deniau would result in a database containing only the NIT table, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The Yoneda and Deniau references disclose extracting and storing all of the required data from a channel. The combination of Suzuki with the Yoneda

and Deniau references is simply to teach the existence and usefulness of gathering information tables for every available carrier frequency.

f. As to applicant's argument to claims 2-6, 8 and 9, applicant's arguments are moot in view of the new rejections.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Sheleheda whose telephone number is (703) 305-8722. The examiner can normally be reached on 9:00-5:30.

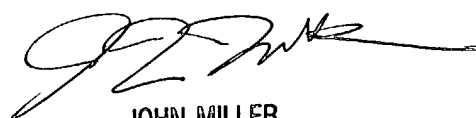
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Sheleheda
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JS



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